Vinamr Arya

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EDUCATION

University of Michigan, Ann Arbor *Expected Graduation: July 2023*
Double Major: B.S.E Computer Science, B.S.E Aerospace Engineering *GPA: 3.1*

Coursework: Data Structures and Algorithms | Aerospace Structures | Aerodynamics | Spacecraft Dynamics | Aerospace Engineering Systems | Aerospace Propulsion | Controls of Aerospace Vehicles

WORK EXPERIENCE

Medical Drone UAV *University of Michigan, Ann Arbor*
Lead Engineer *June 2021 - Present*

- Led a team of four students and collaborated directly with executives from BlueFlite, team from KNUST (Ghana) and Professors from the University of Michigan to design, prototype and test a hybrid-electric heavy lift tilt-rotor quad plane for rapid deployment of medical supplies in remote regions of Ghana.
- Performed rigorous testing to validate major components of the aircraft, including static and dynamic thrust tests to estimate flight performance of various propellers and multiple tethered flight tests to tune the PID controller.
- Used Flight Stream and VSP to tune the aerodynamics of the aircraft which resulted in a 5lbs reduction in weight and a 3 feet reduction in wingspan while increasing the range by 6 km.

Burnoulli Tech Sonipat, India
Co-Founder and CEO *May 2017 – April 2022*

- Founded Burnoulli Tech, a private manufacturing company that produces small to medium sized robots and semi-autonomous hardware/software suites for off road vehicles.
- Designed, prototyped, and produced 5+ successful products while managing 20+ employees.
- Coordinated the creation of 10+ educational robotics workshops in various Indian secondary schools.

PROJECT EXPERIENCE

Igor (All-Terrain Vehicle)

- Designed and prototyped an all-terrain vehicle (ATV) with remote control capabilities from scratch in 9 months.
- Used commercially available motorcycle sprocket and chains to create a caterpillar track drive train.
- Generated low-fidelity prototypes to get user feedback for propulsion controls of the two 125 cc engines.
- Used a suite of sensors, servos, and a Raspberry Pi to add remote driving capabilities with a range of 5 km.

FireFly (Fire Extinguishing Hex copter)

- Designed and prototyped a semi-autonomous hex copter capable of carrying up to 6lbs of fire extinguisher.
- Used a suite of ultrasonic and thermal imaging sensors with DJI FPV system, an Ardupilot and a Raspbery Pi to add semi-autonomous capabilities to the aircraft.
- Calculated the required propeller pitch angles, motor wattage, battery capacity and subsequently designed an electrical system.

SKILLS

Computer skills: MATLAB | Python | C++ | Ardupilot | Siemens NX | XFoil | AVL| Catia | VSP | FlightStream | PX4
Machine skills: Soldering | Laser cutter | 3D Printer | Welding | Lathe | Bandsaw

CAMPUS ORGANIZATIONS

MFly, Autonomous Class Structures Lead *July 2022 – Present*

- Led a team of 6 students to design a tail dragger aircraft with maximum take-off weight of 30lbs.
- Designed and prototyped payload storage and delivery mechanism to house five cylindrical payloads weighing 2lbs each.

Michigan Aviators, Pilot *December 2018 – Present*

- Completed Private Pilot License course from DCT Aviation and received a Private Pilot License.